Interactive Visual Analytics and Explainable AI for Big Data

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Message from the Guest Editors

Dear Colleagues,

The benefits obtained from efficient and effective analysis methods for Big Data are not a prospect of the future anymore, but a reality. One of the research areas responsible for this is machine learning, whose techniques allow computers to learn complex patterns in large amounts of data. However, with great power also comes great complexity, which can hinder decision-making when analysts must understand the patterns—and their origins—before applying them.

In this Special Issue, we focus on the role of information visualization, human-computer interaction, and interactive visual analytics in solving the challenge of Big Data with the use of complex machine learning techniques, while balancing potentially-contrasting requirements such as complexity and efficiency vs. explainability and/or interpretability. Recent advances in these research areas have shown that the investigation of datasets, algorithms, and models in coherent workflows, supported by visual analytics, can lead to the ultimate goals of obtaining impactful insights from large-scale data in a trustworthy and assessable way.

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